Bolt™

Inspiration strikes.

VS-210

FLASH

User's Manual

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Introduction

Thank you for choosing the Bolt VS-210. This compact electronic flash unit can be used with both film and digital cameras. Among the benefits you'll enjoy:

- Choice of manual control or easy automatic flash
- Adjustable five-position flash head
- Sync socket for off-camera flash positioning

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5.2 7.5 11 15 21 30 43 59 ft
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TEST/
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AUTO OK
LOCK
MENU

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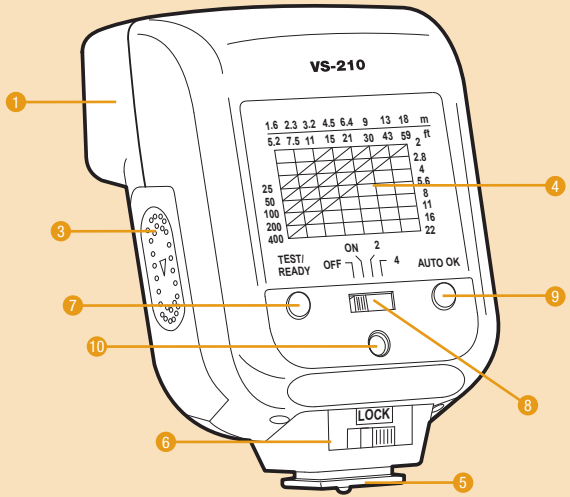
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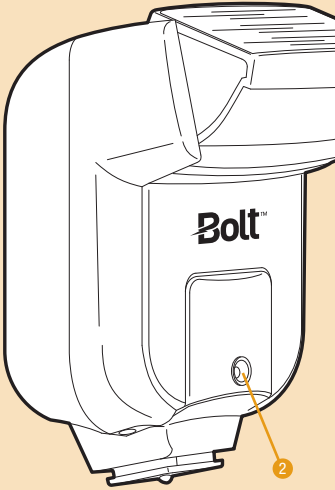
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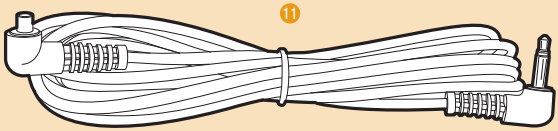


Overview

1. Flash head
2. Auto sensor
3. Battery compartment cover
4. Exposure table
5. Mounting foot
6. Mounting foot lock
7. Test button / Ready light
8. Power switch / Mode selector
9. Automatic exposure confirmation light
10. Sync socket
11. Sync cord

Warnings

Before using your VS-210, please read the following safety notices carefully and thoroughly to ensure safe use, and to help prevent damage to your flash or injury to yourself or others.

- Do not fire the flash at close range directly into the eyes of people or animals. This can cause damage to the retina and may even lead to blindness.
- To avoid overheating and damaging your flash unit, please wait for at least 10 minutes after 20 continuous flashes at full power.
- Do not disassemble or attempt to repair this product yourself. There are high-voltage components inside that can produce a hazardous electric shock.
- Keep this product and its batteries out of reach of children.
- Use only the power sources specified in this manual.
- Always switch the flash off before changing the batteries.
- Always install AA batteries of the same type, brand, and age. Do not combine different types or brands, or old and new batteries. This could cause batteries to leak, overheat, or explode.
- Install batteries in the proper orientation, according to the indicator in the battery chamber. Installing batteries in the reverse orientation could cause them to leak, overheat, or explode.

- Do not use or store the VS-210 in flammable conditions (such as environments containing flammable gases or liquid chemicals). This could damage the flash, start a fire, or cause an electric shock.
- Do not clean the VS-210 with agents containing corrosive or flammable substances such as paint thinner, benzene, or nail polish remover.
- This product is not water resistant. Keep it away from rain, snow, humidity, and general moisture.
- Should the VS-210 get damaged, do not touch any exposed interior metal parts. If touched, they may generate an electric shock or cause a malfunction. Promptly remove the batteries and take the product to an authorized service center for repair.
- If you detect excessive heat, smoke, or a burning smell coming from the flash, immediately stop operation and remove the batteries to prevent the product from igniting or melting. Take the product to an authorized service center for repair.
- Do not touch the VS-210 with wet hands, as this may generate an electric shock.
- Do not drop or otherwise cause a strong physical impact to the VS-210, as this could cause a malfunction that may cause it to explode or ignite.
- Remove all batteries from the VS-210 before long-term storage in order to prevent the product from igniting or leaking corrosive liquids.
- Do not store or use this product at temperatures above 40°C / 104°F.

- Keep the metal contacts in the battery compartment clean and free of corrosion and dirt. Do not touch them with your fingers. Corrosive elements on the contacts can damage the VS-210 and prevent it from functioning properly. Contacts may be cleaned with isopropyl alcohol on a cotton swab.
- Dispose of used batteries properly. Never heat them or throw them into a fire, as this could cause the batteries to leak corrosive liquids, generate heat, or explode.

Installing Batteries

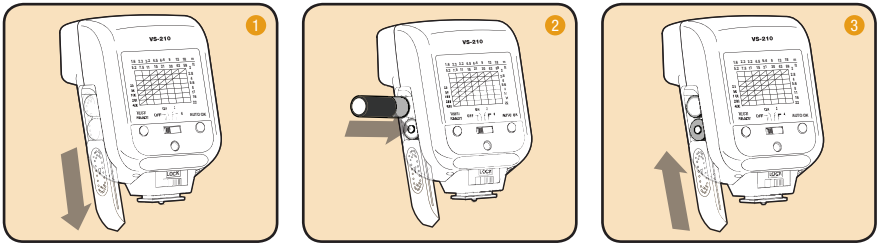
The VS-210 can be powered by two AA batteries of several types:

- Lithium (1.5V)
- Nickel-metal hydride (Ni-MH) (1.2V)
- Alkaline (1.5V)

Note: For the fastest recycle times and longest battery life, lithium and Ni-MH batteries are recommended.

To install batteries, make sure the VS-210 is turned off and follow these steps:

1. Press on the battery compartment cover and slide it in the direction of the arrow to remove it.
2. Insert batteries in the orientations indicated inside the compartment.
3. Replace the battery compartment cover by pressing and sliding it into place, in the opposite direction of the arrow on the cover.



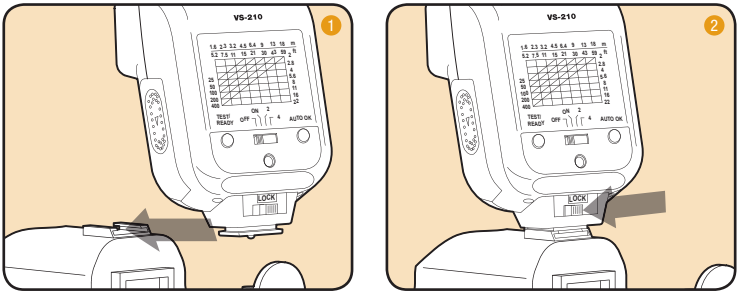
Important!

Replace both batteries at the same time. Do not mix battery types or brands, or use old and new batteries together.

Mounting the Flash

To mount the VS-210 on your camera, turn it off and follow these steps:

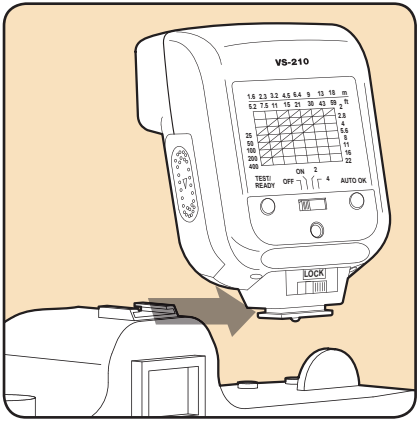
1. Slide the mounting foot lock switch to the right to unlock it, and then slide the flash unit all the way into your camera's hot shoe.
2. Slide the mounting foot lock switch to the left to lock it.



Dismounting the VS-210:

1. Turn the flash off.
2. Slide the mounting foot lock switch to the right to unlock it.
3. Slide the mounting foot out of your camera's hot shoe.

Using a sync cord: If you prefer to position the flash off-camera, you can connect it to the camera with a flash sync cord. To do this, insert one end of the cord into the VS-210's sync socket and the other into your camera's PC sync socket or another compatible port. Using a flash sync cord will allow the flash to synchronize exposures with the camera.



Turning on the Flash and Firing a Test

To turn the flash on, slide the mode selector to the On, 2, or 4 position.

When the flash is ready to fire, the Ready light will glow red.

To fire a test flash, press the Test button / Ready light.

Using the Manual Flash Mode

You can set flash exposures manually with the VS-210. In manual mode, the flash fires at its full power. To use manual mode, follow these steps:

1. Set the mode selector to On.
2. Set your camera to either manual or aperture-priority mode.
3. Set the exposure on your camera. The correct exposure can be determined two ways:
   A. By using the exposure chart on the back of the VS-210 (see below)
   B. By firing a test flash and metering it with a handheld light meter. Refer to your light meter's manual for the correct metering procedure.
4. Press your camera's shutter-release button to take the picture.

Note: When setting the shutter speed in manual mode, the setting will only affect the background. Using a slower shutter will make the background behind your subject brighter and increase background or motion blur, while a faster shutter will keep the background sharp but make it appear darker if it is beyond the flash range.

Do not set the shutter speed faster than your camera's maximum sync speed, or black bars might appear in your images. Refer to your camera's manual for more information about this.

Reading the Exposure Chart

The chart on the back of the VS-210 allows you to determine the correct camera settings and flash-to-subject distance for flash exposures. You can use the chart to determine exposure in three ways:

1. By aperture and flash-to-subject distance:
   A. Select the aperture you want to use on the right side of the chart.
   B. Follow its horizontal line until it intersects with the vertical line of the flash-to-subject distance you want to use.
   C. Follow the diagonal line at the intersection down to the ISO/ASA number at the left of the chart.
   D. Set your digital camera's ISO setting to the number indicated by the diagonal line, or use film that has the indicated ISO/ASA speed.

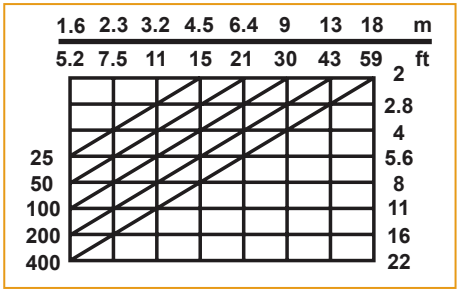
2. By aperture and ISO:
   A. Select the aperture you want to use on the right side of the chart.
   B. Follow its horizontal line until it intersects with the diagonal line of the ISO/ASA setting you want to use.
   C. Follow the vertical line at the intersection up to the flash-to-subject-distance scale at the top of the chart.
   D. Position your subject at the distance indicated by the vertical line

3. By flash-to-subject distance and ISO:
   A. Select the flash-to-subject distance you want to use on the top of the chart.
   B. Follow its vertical line until it intersects with the diagonal line of the ISO/ASA setting you want to use.
   C. Follow the horizontal line at the intersection over to the aperture setting on the right of the chart.
   D. Set the f-stop indicated by the horizontal line on your camera.

Using the guide number to calculate exposure: The VS-210's guide number is 72 feet / 22 meters at ISO 100. You can use this to calculate the appropriate aperture setting with this formula:

Aperture (f-stop) = guide number / flash-to-subject distance.

For example, if your subject is 6 feet away, your aperture should be f/12 (or the closest full stop, f/11), since 12 = 72 / 6.



Using an Automatic Flash Mode

When you select one of the VS-210's two automatic modes, its built-in sensor will determine the appropriate flash output for your subject. To use an automatic mode, follow these steps:

1. In your camera's manual mode, choose a shutter speed and set your lens aperture to f/2.0 or f/4.0.
2. Set the VS-210's mode selector to the automatic mode that corresponds to your selected f-stop, either 2 or 4.
3. Set your camera's ISO to 100, or use ISO/ASA 100 film.
4. Make sure your subject is within the VS-210's automatic mode range, 5 meters (16 feet) at f/4.0 and 10 meters (33 feet) at f/2.0.
5. Press your camera's shutter-release button to take the picture. The Auto OK light will glow green momentarily to indicate that the proper exposure was attained.

Note: You can use smaller lens apertures and still get the correct exposure by increasing your ISO setting. For example, in mode 4, you can set your aperture one stop smaller to f/5.6, and increase the ISO by one stop, to ISO 200.

Remember that the shutter speed setting will only affect the background. Using a slower shutter will make the background behind your subject brighter and increase background or motion blur, while a faster shutter will keep the background sharp but make it appear darker if it is beyond the flash range.

Note: Do not set the shutter speed faster than your camera's maximum sync speed, or black bars might appear in your images. Refer to your camera's manual for more information about this.

Important! Make sure nothing is obscuring the auto sensor on the front of the flash or blocking the line of sight between it and your subject.

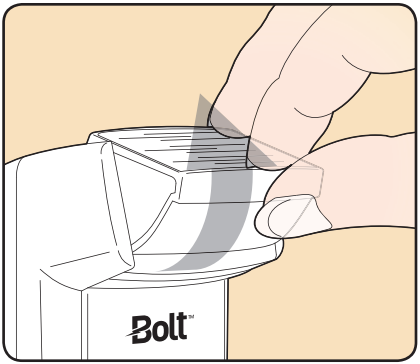
Bouncing Your Flash

Using flash to directly illuminate a subject often creates harsh, unnatural, and unattractive shadows. To avoid this, the flash can be tilted up, allowing you to aim it at a large white or neutral-colored surface, such as a

ceiling, a wall, or a reflector. The light will bounce off of the larger surface before striking your subject, providing softer, more natural illumination.

The VS-210 flash head can be tilted up at 45-, 60-, 75-, and 90-degree angles to the lens.

When bouncing your flash, you may need to adjust your exposure settings, since the level of light falling on your subject will be reduced. The farther away the bounce surface and your subject are, the more illumination will be reduced.



Tip: Bouncing your flash off of colored surfaces can create a color cast in your images. Bouncing off of a white or neutral-colored surface will not alter the color of the light, while bouncing off of a gold-toned surface can give portraits a warmer look. Other colors, while usually not desirable, can be used for creative effects.

Troubleshooting

Problem	Solution
The flash is stuck in the camera hot shoe.	Make sure that the mounting foot lock is released.
The flash is turned on but won't fire.	Make sure that fresh batteries are installed and in the proper orientation.
The edges of images look dark.	Your lens angle of view is wider than the flash angle of coverage. Use a lens with a longer focal length.
There's a whining sound coming from the flash.	This is normal and does not indicate a malfunction. When the flash becomes warm from continuous use, vibrations inside the unit may cause this sound. It will dissipate as the unit cools.

Customer Service

For customer service, please go to www.boltflashes.com.

Specifications

Type: On-camera electronic flash

Compatible cameras: Film and digital cameras with standard hot shoes

Guide number (at 35mm, ISO 100): 72 feet / 22 meters

Flash coverage angle: equivalent to a 35mm lens on a 35mm-format camera

Flash duration: 1/2,000–1/40,000 second

Flash recycle time: 0.3–10 seconds

Power source: 2 AA lithium, Ni-MH, or alkaline batteries

Number of flashes with fresh batteries: Approx. 100

Bounce positions: 0º, 45º, 60º, 75º, 90º

Ports: Sync cord

Dimensions (W x H x D): 65 x 98 x 54 mm / 2.6 x 3.9 x 2 inches

Weight (without batteries): Approx. 4.6 ounces / 127 grams

Limited Warranty

Bolt warrants that this product is free from defects in material and workmanship for a period of one (1) year from the original purchase date or thirty (30) days after replacement whichever occurs later (the "Warranty Period"). Bolt's sole and exclusive responsibility with respect to this limited warranty shall be to repair or replace, at its sole discretion, any Bolt product which fails during normal consumer use. This warranty does not extend to Bolt products which are used with inappropriate components, components not recommend by Bolt, not in accordance with the product instructions, or to damage or failure which results from misuse, neglect, accident, alteration, abuse, improper installation or maintenance. Bolt shall not be responsible for any incidental or consequential damages or lost profits arising out of the sale and use of its products regardless of whether Bolt knew or should have known of the possibility of such damages. To obtain warranty coverage during the Warranty Period, contact your place of purchase ("Seller") to obtain a return merchandise authorization ("RMA") number, and return to Seller the defective product along with proof of purchase and the RMA number. This warranty provides you with specific legal rights, and you may have additional rights which may vary from state to state.

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